

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in this application.

LISTING OF CLAIMS:

Claims 1-12 (Canceled)

13. (Currently Amended) An on-vehicle radio device that acquires identification information for unlocking a lock device of a vehicle from a portable radio device having said identification information recorded therein by radio communication with said portable radio device, comprising:

human detection means of detecting a person;

variable frequency signal generating means of generating a variable frequency signal for said radio communication;

band changing means of changing the frequency band of a signal generated by said variable frequency signal generating means ~~in accordance with a detection signal of said human detection means~~ in a case in which an on-vehicle radio device has not yet acquired the identification information recorded in the portable radio device when the person carrying the portable radio device having the identification information recorded therein is detected by the human detection means;

radio transmitting means of transmitting the signal generated by said variable frequency signal generating means to the outer space; and

transmission characteristics changing means of changing the transmission characteristics of said radio transmitting means to transmission characteristics

adapted to the frequency band of the signal generated by said variable frequency signal generating means changed by said band changing means.

14. (Currently Amended) An on-vehicle radio device that acquires identification information for unlocking a lock device of a vehicle from a portable radio device having said identification information recorded therein by radio communication with said portable radio device, comprising:

radio wave measuring means of measuring radio wave intensity in the outer space of said on-vehicle radio device for each of predetermined frequency bands;

variable frequency signal generating means of generating a variable frequency signal for said radio communication;

band changing means of changing the frequency band of a signal generated by said variable frequency signal generating means to ~~one of the frequency bands for which said radio wave measuring means measures the lowest radio wave intensity~~ a frequency band in which the radio wave intensity in the outer space of the on-vehicle radio device is lowest from amongst the predetermined frequency bands;

radio transmitting means of transmitting the signal generated by said variable frequency signal generating means to the outer space; and

transmission characteristics changing means of changing the transmission characteristics of said radio transmitting means to transmission characteristics adapted to the frequency band of the signal generated by said variable frequency signal generating means changed by said band changing means.

15. (Canceled)

16. (Previously Presented) The on-vehicle radio device according to claim 14, wherein said radio measuring means measures radio wave intensity when said on-vehicle radio device is in a transmission wait state.

17. (Previously Presented) The on-vehicle radio device according to claim 13, wherein the frequency band of a signal transmitted from said portable radio device to said on-vehicle radio device is set higher than the frequency of the signal transmitted from said on-vehicle radio device to said portable radio device.

18. (Previously Presented) The on-vehicle radio device according to claim 13, wherein said variable frequency signal generating means generates the signal to be transmitted to said portable radio device based on discrete variable values of a sine function stored in a table.

19. (Previously Presented) The on-vehicle radio device according to claim 13, wherein said variable frequency signal generating means generates a carrier wave based on discrete variable values of a sine function stored in a table and modulates a predetermined code with the carrier wave, thereby generating the signal to be transmitted to said portable radio device.

20. (Previously Presented) The on-vehicle radio device according to claim 13, wherein said band changing means has a digital filter that removes a frequency band that is not necessary for transmission to said portable radio device based on a

predetermined coefficient and changes said coefficient in accordance with the changed frequency band of the signal generated by said variable frequency signal generating means.

21. (Previously Presented) The on-vehicle radio device according to claim 14, wherein the frequency band of a signal transmitted from said portable radio device to said on-vehicle radio device is set higher than the frequency of the signal transmitted from said on-vehicle radio device to said portable radio device.

22. (Previously Presented) The on-vehicle radio device according to claim 14, wherein said variable frequency signal generating means generates the signal to be transmitted to said portable radio device based on discrete variable values of a sine function stored in a table.

23. (Previously Presented) The on-vehicle radio device according to claim 14, wherein said variable frequency signal generating means generates a carrier wave based on discrete variable values of a sine function stored in a table and modulates a predetermined code with the carrier wave, thereby generating the signal to be transmitted to said portable radio device.

24. (Previously Presented) The on-vehicle radio device according to claim 14, wherein said band changing means has a digital filter that removes a frequency band that is not necessary for transmission to said portable radio device based on a predetermined coefficient and changes said coefficient in accordance with the

changed frequency band of the signal generated by said variable frequency signal generating means.

25. (Previously Presented) The on-vehicle radio device according to claim 15, wherein the frequency band of a signal transmitted from said portable radio device to said on-vehicle radio device is set higher than the frequency of the signal transmitted from said on-vehicle radio device to said portable radio device.

26. (Previously Presented) The on-vehicle radio device according to claim 15, wherein said variable frequency signal generating means generates the signal to be transmitted to said portable radio device based on discrete variable values of a sine function stored in a table.

27. (Previously Presented) The on-vehicle radio device according to claim 15, wherein said variable frequency signal generating means generates a carrier wave based on discrete variable values of a sine function stored in a table and modulates a predetermined code with the carrier wave, thereby generating the signal to be transmitted to said portable radio device.

28. (Previously Presented) The on-vehicle radio device according to claim 15, wherein said band changing means has a digital filter that removes a frequency band that is not necessary for transmission to said portable radio device based on a predetermined coefficient and changes said coefficient in accordance with the

changed frequency band of the signal generated by said variable frequency signal generating means.

29. (Previously Presented) The on-vehicle radio device according to claim 16, wherein the frequency band of a signal transmitted from said portable radio device to said on-vehicle radio device is set higher than the frequency of the signal transmitted from said on-vehicle radio device to said portable radio device.

30. (Previously Presented) The on-vehicle radio device according to claim 16, wherein said variable frequency signal generating means generates the signal to be transmitted to said portable radio device based on discrete variable values of a sine function stored in a table.

31. (Previously Presented) The on-vehicle radio device according to claim 16, wherein said variable frequency signal generating means generates a carrier wave based on discrete variable values of a sine function stored in a table and modulates a predetermined code with the carrier wave, thereby generating the signal to be transmitted to said portable radio device.

32. (Previously Presented) The on-vehicle radio device according to claim 16, wherein said band changing means has a digital filter that removes a frequency band that is not necessary for transmission to said portable radio device based on a predetermined coefficient and changes said coefficient in accordance with the

changed frequency band of the signal generated by said variable frequency signal
generating means.